

The Stoic Criterion of Identity

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The story starts with a scene from an early Greek comedy. Its author is the Syracusan comic playwright Epicharmus, and it probably dates from the opening decades of the fifth century B.C. The following reconstruction is based on one verbatim quotation of twelve lines, plus two indirect references to it in later authors.¹

Character A is approached by Character B for payment of his subscription to the running expenses of a forthcoming banquet. Finding himself out of funds, he resorts to asking B the following riddle:

‘Say you took an odd number of pebbles, or if you like an even number, and chose to add or subtract a pebble: do you think it would still be the same number?’

‘No,’ says B.

‘Or again, say you took a measure of one cubit and chose to add, or cut off, some other length: that measure would no longer exist, would it?’

‘No.’

‘Well now,’ continues A, ‘think of men in the same way. One man is growing, another is diminishing, and all are constantly in the process of change. But what by its nature changes and never stays put must already be different from what it has changed from. You and I are different today from who we were yesterday, and by the same argument we will be different again and never the same in the future.’

B agrees. A then concludes that he is not the same man who contracted the debt yesterday, nor indeed the man who will be attending the banquet. In that case he can hardly be held responsible for the debt. B, exasperated, strikes A a blow. A protests at this treatment. But this time it is B who neatly sidesteps the protest, by pointing out that by now he is somebody quite different from the man who struck the blow a minute ago.

To subsequent generations, the argument used in this scene read like a remarkable anticipation of a philosophical doctrine associated with the names of Heraclitus and Plato, that of the radical instability of the physical world; and Plato himself was pleased to acknowledge such evidence of the doctrine’s antiquity.² But although the puzzle is a serious challenge to ordinary assumptions about identity, never in the fourth century B.C., the era of Plato and Aristotle, does it meet with a proper philosophical analysis

and repudiation.³ That is not to say that materials for answering it cannot be found in Aristotle's metaphysical writings.⁴ My point is that it was not until the generation after Aristotle, with the emergence of the Stoic school, that the solution of such puzzles became an absolutely central route to philosophical discovery. This fact is becoming a familiar one with regard to Stoic logic, but very much less so when it comes to their metaphysics. In fact, the story which I shall be piecing together in this paper has as far as I know featured in none of the modern reconstructions of Stoic philosophy.

An especially important historical fact here is that when the Stoic school emerged in Athens at the opening of the third century B.C. there sprang up alongside it a dialectical gadfly, a new generation of radical sceptics, under the leadership of Arcesilaus, who had seized the reins of power in Plato's old school, the Academy. For the next two centuries every philosophical move by the Stoics was liable to be covered and challenged by these Academics, and Stoic theories were constantly designed and redesigned to circumvent the attacks. Many of the Academic countermoves exploited philosophical puzzles,⁵ some of which have remained classics.

Among these puzzles was Epicharmus' argument about change and identity, now entitled the Growing Argument (*Auxanomenos Logos*).⁶ These titles of puzzles standardly had a double meaning.⁷ For example, the riddle 'Have you lost your horns?', to which 'yes' and 'no' seem equally compromising answers, was called the Horned Argument — not only because it concerned a man alleged to have horns but also because it was a dilemma. Similarly we may guess the Growing Argument to be not only an argument about a growing man, but also one which itself grows hydra-like by constantly generating new individuals.

The version of it used by the Academics against the Stoics is reported as follows by Plutarch:⁸

'(a) All individual substances are in flux and motion, releasing some things from themselves and receiving others which reach them from elsewhere.

(b) The numbers or quantities which these are added to or subtracted from do not remain the same but become different as the aforementioned arrivals and departures cause the substance to be transformed.

(c) The prevailing convention is wrong to call these processes of growth and decay: rather they should be called generation and destruction, since they transform the thing from what it is into something else, whereas growing and diminishing are attributes of a body which serves as substrate and remains.'

To illustrate the argument, take a man who is composed of n particles.

On a given day his body consumes 20,000 particles of food and expels 19,900 particles. He now consists of $n + 100$ particles. Is he still the same man? Like Epicharmus, the Academic sceptics hope to persuade us that he is not, and like Epicharmus they invoke the parallel of numbers and measures. Take a number, n , add 20,000 and subtract 19,900, leaving $n + 100$. What has happened to your original number n ? You cannot intelligibly say 'It's still there, but it's grown.' You can only say that it has been replaced by a different number. So too, if the analogy is valid, the man has been replaced by a different man.

I have deliberately made the case of the man and the case of the number sound as similar as possible. But the whole question is whether material objects and numbers do behave alike in this respect. Can a material object be individuated by a numerical specification of its ingredients, so that any alteration in these constitutes a change of identity? It can, provided one views it under the description 'this lump of matter'. Take a lump of matter, add or subtract a particle, and it is no longer the same lump of matter. It might be misleading to call it without qualification a *different* lump of matter, but that it is at any rate not strictly speaking the same lump of matter seems perfectly correct.⁹ Virtually the identical argument was used by Locke¹⁰ (and reiterated by Hume):¹¹

'... if two or more atoms be joined together into the same mass . . . whilst they exist united together, the mass, consisting of the same atoms, must be the same mass, or the same body, let the parts be ever so differently jumbled. But if one of these atoms be taken away, or one new one added, it is no longer the same mass or the same body.'

Next, suppose that a particular lump of matter which confronts us is a human being. Granted the identity of this lump of matter with this human being, we can expect everything true of the one to be true of the other. With the slightest addition or subtraction of particles what confronts us will no longer be this lump of matter; and therefore, by substitution, what confronts us will no longer be this human being. *Prima facie* the puzzle is as plausible as it is shocking.

So far the Academic argument has done little more than restate Epicharmus' puzzle. The way in which they turned it against their Stoic foes was by adding a sting to its tail. The Stoics' work in cosmology aimed to find a philosophical analysis of natural processes, and the most fundamental natural process of all is the growth of living things. But it now appeared that growth is itself a philosophically incoherent notion. After all, a statement like 'This daffodil has grown' presupposes that one and the same daffodil was smaller at the beginning of the process and bigger at the

end of it. But the Growing Argument has shown that, on the contrary, it is not the same daffodil at the end of the process, or at any intermediate stage, as it was at the start. Hence there is no enduring thing of which we can say 'It is growing'. Growth is a notion which defies philosophical analysis, and Stoic cosmology is built on sand.¹²

This anti-Stoic motive helps to explain what might at first sight seem an unnecessary restriction of the puzzle's scope. By sticking to the analogy with numbers the Growing Argument concerns itself purely with cases where the sum total of constituent particles in a body increases or decreases – 'growth' and 'diminution'. But why not extend it to cases of what we might call stable flux, where there is neither expansion nor contraction but just a succession of numerically distinct parts? A celebrated example of this was the river in which Heraclitus said that you could not step twice because of the constant renewal of its water.¹³ Similarly, on a day when my body expels exactly as many particles as it consumes, do I not still cease to be the same lump of matter, and hence, according to the puzzle, cease to be the same individual? As a matter of fact there was one instance in which this extension of the Growing Argument was permitted. The ship of Theseus had been kept for many centuries on display in Athens. During that time every one of its timbers rotted and was replaced. Was it still the same ship? According to Plutarch,¹⁴ this uncertainty made it a matter of interest for the philosophers, as providing a suitable case for the Growing Argument. Is he right? In one way it may seem obvious that this is not a proper instance of the Growing Argument, in that there was no question of the ship's growing. In fact, though, such a degree of variation on the basic theme would be well within the latitude which the propounders of these puzzles normally permitted themselves.¹⁵ Despite which, there is no sign that the ship of Theseus, or any other case of stable flux, featured prominently in the Academic-Stoic debate. A number of considerations suggest that the exclusion may have been a wise one.

First, stable flux is easily enough recognised in inanimate objects like Theseus' ship or Heraclitus' river; but when it came to living beings, which always provided the paradigm cases,¹⁶ how could they know that any such thing as stable flux was taking place? The particles ingested by a fully grown living being might, for all they knew, be the very same ones as those expelled or burnt up soon after, like the fuel in a car – in which case no material reconstitution would take place. In a case involving growth or shrinkage it was, at least, certain that material reconstitution was occurring. Second, stable flux loses the analogy with numbers and measures which had been a mainstay of the puzzle since the time of Epicharmus, as well as

the sting in the tail by which growth was shown to be philosophically incoherent. Third, the ship of Theseus is certainly enigmatic, but largely, I think, for a reason unconnected with the Growing Argument. To invent a parallel, I might quite intelligibly talk about buying a new handle for my broom, or of buying it a new head; it would only be if I claimed to have bought it a new handle *and* a new head that its identity would become unavoidably enigmatic. Similarly Theseus' ship would have gained no notoriety among the Athenian antiquarians if just a few timbers had been restored here and there. The puzzlement arose only when virtually *every* timber had been replaced. This contrasts with the Growing Argument, which in its classical form tries to associate a change of identity with every material reconstitution, however slight. All things considered, it is not surprising that the Academics found it strategically better to emphasise those cases which involved growth and diminution, rather than those like Theseus' ship.

It is now time to consider the Stoic response to the Growing Argument. It seems from Plutarch's evidence that this was the work of Chrysippus,¹⁷ the third and greatest head of the school, active at the end of the third century B.C., who undertook to repulse the Academy's onslaught on all fronts. His opening tactic was apparently to cite the scene from Epicharmus, as evidence of the unoriginality of the Academic puzzle.¹⁸ But we can quickly pass on from this deflationary jibe to his serious philosophical response. Here one can fruitfully compare his handling of the problem with that later adopted by Locke. One of Locke's insights was that although under the description 'this lump of matter' I may be changing my identity from moment to moment, under a description like 'this person' I am not.¹⁹ Chrysippus seems to have been led by the Growing Argument to virtually the same insight. In fact my earlier presentation of the puzzle as conflating the two levels of description was not the Academics' own but incorporated Chrysippus' diagnosis. What is especially significant about that diagnosis is that the reports of it contain the earliest recorded use of the Stoic theory of 'categories',²⁰ as it is misleadingly called in modern discussions. We are told by our sources that the Stoics distinguished four 'kinds of existing thing' – what I shall be referring to as the four 'levels' of existence – so related to each other that every individual can be described under all four headings. The four headings are: 'substrate', 'qualified', 'disposed', and 'relatively disposed'. There has been much recent debate about the nature and purpose of this theory,²¹ but I think that some of the mystery is dispelled once one sees that it originated at least partly in response to the Growing Argument. It is founded on the recognition that an ostensibly

unitary object may under different descriptions have different and even incompatible things truly said of it. The insight was not in itself a new one, but Chrysippus' scheme is the first attempt to derive from it a formal classification of the levels of description available. In particular it was the first two of the four levels of existence – substrate and qualified – that Chrysippus invoked in solution of the Growing Argument.

'Substrate' (*hupokeimenon*), commonly called 'substance' (*ousia*), is a thing's constitutive matter – the wood or bronze, or, at a more basic level of analysis, its prime matter.²² *Qua* substrate, each of us will be merely this or that lump of matter, and Chrysippus concedes to the Growing Argument that under this description we have no endurance through time, and therefore cannot properly be said to grow or to shrink. But each lump of matter possesses a set of qualities, and it is *qua* qualified individual that each of us endures through time and constitutes a proper subject of growth and diminution, despite the flux of his material substrate.²³ To put it in other words, I may become a different lump of matter from moment to moment, but I am the same human being throughout my life. The distinction clearly presupposes that there is no straightforward identity relation between the lump of matter and the human being – otherwise anything true of the one would be true of the other. This principle of non-identity is first explicitly stated and defended by a Stoic source post-dating Chrysippus by over a century,²⁴ but there can be little doubt that Chrysippus was himself its author.

Perhaps the Stoics should have been content to stop there. For once the non-identity of a man with his matter was established, the Growing Argument was technically refuted. But the rejection of matter as the principle of individuation through time naturally invited a demonstration on their part that their own candidate, the qualified individual, could do the job better. For quality is a highly elastic concept, and it is not at first sight obvious what sort of quality might be more successful than matter in constituting my identity over a lifetime. All Stoic 'qualities' are physical states or processes of a thing, but because the soul is corporeal these can include mental as well as bodily states and processes. More particularly, they distinguished 'common' from 'peculiar' qualities. Commonly qualified individuals (*koinōs poiōi*) are those designated by common nouns and adjectives: 'man', 'wise', or even, on a liberal interpretation of 'quality', 'running' or 'sticking out a fist'.²⁵ Peculiarly qualified individuals (*idiōs poiōi*) are those viewed as possessors of uniquely identifying qualities. The standard examples are Dion and Theon. Several sources are explicit in making it these peculiarly qualified individuals who endure throughout a

lifetime, and who therefore, in answer to the Growing Argument, constitute the proper subjects of growth and diminution.²⁶

This makes a lot of sense. It is not that common qualities are necessarily too ephemeral – being a human being, at any rate, lasts a lifetime – but no common quality can ever be enough to establish identity, for the simple reason that it is common. Why, the Academics might ask, should an apparently single body not remain human for seventy years but nevertheless be composed of a long series of individuals? What we need to know is, what makes me *this* human being? The Stoics might have done well to consider the answer that an enduring identity is attributable to any *spatio-temporally continuous* item, so long as it also retains its characteristic species-membership. If they did not, as the silence of our sources suggests, it may be because of a failure to distinguish spatio-temporal continuity, which even a Heraclitean river might satisfy, from the simple material individuation which had already fallen victim to the Growing Argument. Instead they picked out the peculiar quality as alone capable of providing living things with continuity of identity. And they were adamant that a peculiar quality must last throughout a lifetime. How else can I be guaranteed to be the same person now as I was on the day of my birth?

Beyond this no direct evidence seems to survive about the Stoic solution to the Growing Argument. But it is important to speculate about what a peculiar quality might be and in what sense it establishes identity. Some later reports speak of the peculiar quality as a unique complex of common qualities.²⁷ This sounds promising, but we must be careful. No doubt the peculiar quality which makes Dion the individual he is includes at least one common quality, namely his species, 'human being'. After all, he could not cease to be a human being but continue to be Dion. But the label 'human being' does not yet mark him off as an individual. And what other common quality, not already contained in the notion of 'human being', is necessarily lifelong? Not precise colour of hair, skin or eyes. Not shape or size. Not character. Dion might change in any of these respects without sacrificing his identity as Dion. So the Stoics seem to have a problem.

How about a unique set of memories, a favourite criterion of personal identity in modern discussions? Memories certainly fall well within the bounds of the Stoic notion of qualities. But there is no evidence that they invoked them in this context, and it would be surprising if they had. First, memory could only serve as a criterion of identity in a fairly narrow range of animate beings, perhaps only in men. But the Growing Argument has *all* living beings as its scope, and even though the discussion focussed mainly on human identity, a solution which rescued only a small selection of the

puzzle's victims would have been profoundly unsatisfying. Second, they held, as I have said, that peculiar qualities must be lifelong, in order to make Dion the same person from birth to death. But it is questionable whether any memory lasts from the moment of birth to the moment of death. Some recent discussions²⁸ have got over this hurdle by treating a human being as a single process and invoking continuity of memory merely to establish identity between each stage of the process and the next, without thereby requiring that it should be the same set of memories that establishes identity at every stage. Such a theory, had it been available in the third or second century B.C., could not, I think, have satisfied either the Stoics or their Academic adversaries. But that is for an epistemological reason, to which we will come shortly.

Or again, why not differentiate an individual by certain relations in which he stands – mark off Socrates, say, as ‘husband of Xanthippe’, ‘the wisest of the Greeks’, or even ‘the man sitting over there on the left of Alcibiades’? In answer, we must return to the Stoics’ list of four levels of existence. External relations belong to the fourth level, the ‘relatively disposed’ (*pros ti pōs echon*). To place a thing in the class of the relatively disposed is to speak of it under a description subject to what is sometimes called ‘Cambridge change’ – one which may begin or cease to be true of it without its undergoing any change in itself.²⁹ Socrates could cease to be the husband of Xanthippe if she divorced him. He could cease to be the wisest of the Greeks if Plato grew to be wiser. And he could cease to be the man on Alcibiades’ left if Alcibiades got up and moved. If all such external relations belong to the fourth Stoic level of existence, they are being deliberately kept distinct from the peculiar quality, since quality is located at the second level. And this technical difference carries with it a perfectly sound philosophical point. It seems hopeless to expect individuals to be differentiated by descriptions which can alter at any time through circumstances beyond their control. Socrates cannot be adequately individuated as ‘husband of Xanthippe’, for fear of losing his identity if Xanthippe dies or divorces him. He may also wonder whether he existed as the same individual before his marriage to Xanthippe. One way out may suggest itself. Why not tie external relations down to a specific time – identify him as ‘the man who was Xanthippe’s husband in 400 B.C.’? That would at least dispel the worry about his marital status in 460 B.C. or in years to come. But then we will be right back where we started, in the clutches of the Growing Argument: how can we *know* that the man who was Xanthippe’s husband in 400 B.C. is identical with the Socrates who was born in 469 or with the Socrates who died in 399? Even granting that the

Socrates who died in 399 was still the husband of Xanthippe, that is no guarantee of his enduring identity. If the Growing Argument is right, Xanthippe was lucky enough to be married to a long series of numerically distinct individuals called Socrates.

There will also be a further objection to invoking external relations. As I mentioned earlier, the Stoics had an epistemological motive for rejecting a criterion of identity that might not remain unchanged throughout an individual’s lifetime. This now needs explaining. Chrysippus’ problem was that at the same time as fending off the Growing Argument he faced a further challenge from the Academic sceptics on a quite separate front.

Zeno, the founder of the Stoic school, had made it a requirement for his philosophical system that some truths should be infallibly known. His word for such infallible cognition is *katalēpsis*, literally ‘grasping’, which through its Latin translation *perceptio* is the direct ancestor of our word ‘perception’. We can indeed translate it ‘perception’, so long as we recognise that in addition to sensory perception it sometimes extended to intellectual perception of truths through reason. Despite which, sensory recognition of individuals regularly provided the paradigm cases of ‘perception’; and that is precisely how the issue of perception became entangled with the strictly independent issue of personal identity.

To the early Stoics it had simply been obvious that there were certain cases where one couldn’t be mistaken. If a friend confronts you in good daylight, and you are sharp-sighted and sober, the truth just stares you in the face. If you professed to doubt his identity for a moment your sanity might be called into question. But this assumption reckoned without the determination of the sceptics. Aren’t there such things as identical twins? And isn’t it just conceivable that your best friend has an identical twin? If even human beings can defy identification in this way, we can never be certain that *any* impression is true. This lingering doubt gave rise to the Academics’ notorious Indistinguishability Thesis (*aparallaxia*): for any true impression, there is an indistinguishable false one. Surely then, they argued, intellectual honesty alone demands an admission that there is no such thing as totally infallible perception. (Strictly, the point needed to be argued separately for recognition of types, as opposed to individuals, but the tendency was to treat the two kinds of perception as standing or falling together.)

This line of reasoning seems to have persuaded some of Zeno’s followers,³⁰ and it was not until Chrysippus appeared on the scene that a full scale defence of infallible perception was launched. A lot was at stake. Our very rationality, the Stoics held, depended on our development of a set of

universal conceptions, and these they took to depend on numerous recollected sensory perceptions during the first years of life, the conception of 'horse', for example, being constructed out of a series of individual perceptions of horses. If those sensory perceptions might after all be erroneous, our universal conceptions, and hence our very rationality, could prove to be vacuous. No understanding of the world could rest on so shaky a foundation.³¹

Chrysippus' response to the Indistinguishability Thesis was an extensive and complex one. Part of his answer to the claim that for every true impression there is an indistinguishable false one lay in a search for some internal subjective feature of certain impressions which would label them as infallible. That must be passed over here. But he also defended a position, which may or may not have originated with him, that there is never any need to misidentify an external object, because *every individual object is qualitatively unique*. I shall call this the Uniqueness Thesis. It is, to be precise, the thesis that every individual has its own peculiar quality.

It should by now be becoming clear why the uniquely identifying quality of each individual must, for Stoic purposes, be a lifelong one. If it weren't, there would always be the danger that any of your acquaintances might suddenly change his peculiar quality, and become unrecognisable between one meeting and the next. That very possibility, however abstract, would be fatal to the doctrine of infallible recognition.

Some of the recorded arguments for the Uniqueness Thesis are empirical. Identical twins can be distinguished by their mother, so must be dissimilar in some respects. And even eggs, which were proverbially indistinguishable from each other, could be told apart by experts: at any rate, it was said that the poultry farmers on Delos could look at any egg and tell you which hen had laid it.³² All this may have had a little force as an *ad hominem* rejoinder, but it left the ball firmly in the Academics' court. Why, they persisted, should we deny the possibility that at least *some* things are qualitatively indistinguishable — ears of corn, doves, hairs, bronze statues off the same production line, or imprints in wax made by the same signet ring?³³

One might wonder why the Stoics should have felt discomfited by this rejoinder. After all, the idealised Stoic wise man would not in a normal working day be called upon to identify individual ears of corn or hairs.³⁴ Wasn't it enough if infallible recognition could be vindicated in a paradigmatic case like that of human beings? But the Academic question about ears of corn and hairs has a more telling point to press home. It was hardly enough for the Stoics' Uniqueness Thesis, even in the case of human

beings, to be a contingent truth. They might establish that there was as a matter of fact no authenticated example of two qualitatively indistinguishable individuals, and still leave the possibility of a perfect double turning up one day. That possibility, however remote or abstract, would be fatal to their faith in infallible recognition. Their Uniqueness Thesis therefore had to claim the status not of a contingent truth but of a necessary truth. And that must be the point of the Academic challenge about ears of corn and hairs. If it is a logical or metaphysical impossibility for two particulars to be qualitatively indistinguishable, the Uniqueness Thesis cannot be applied selectively, but must extend to the most minute or trivial items. And whereas the Stoics might have common sense on their side when talking about the qualitative uniqueness of human beings, they outrage it if they are forced to make the same claim for hairs and specks of dust.

How, anyway, *could* it be logically demonstrable that all particulars are qualitatively unique? Only one Stoic argument for this has survived. If two particulars were qualitatively indistinguishable, they said, we would have the same peculiarly qualified individual simultaneously occupying two different substances. And that they held to be impossible.³⁵ Now on the face of it they are perfectly right. One peculiar quality cannot belong to two different substances, because if it did it would not be a peculiar quality but a common quality. Unfortunately, that line of argument is a bit too easy. The Academic notion of indistinguishability need not amount to the self-refuting claim that one peculiar quality can occupy two substances. It can be expressed as the less vulnerable claim that some things may simply not have their own peculiar quality.

To block off that way of restating the Indistinguishability Thesis, the Stoics would need some independent ground for asserting that every individual must have its own peculiar quality. Now as it happens, such a ground is readily available to them — *in the form of their solution to the Growing Argument*. Only by possessing a fixed peculiar quality, they held, can a living individual retain an identity through time. And without such retention of identity, questions about *re-cognition* could not be asked in the first place, since one could give no sense to the idea of meeting the same living individual twice. So it looks as if we can make sense of the Stoic position by bringing in their solution to the Growing Argument to bolster up their defence of the Uniqueness Thesis.

The connexion of thought which I have suggested here goes beyond our direct evidence. But it seems clear (a) that the Stoics' discussion of the peculiar quality did in fact range over both the metaphysical issue stirred

up by the Growing Argument and the epistemological issue which the Indistinguishability Thesis had brought into focus; and (b) that their response to the Indistinguishability Thesis is incoherent unless the metaphysical theory is introduced to back it up.

It is hard to say whether any mistake was involved in giving the peculiar quality this twin role. Certainly there was hope that each of the two Academic challenges might be met by establishing a firm criterion of personal identity. But it may be objected that two different kinds of criterion are involved. On the epistemological front, the criterion required was one by which individuals could be infallibly *recognised*. The Stoics never, to my knowledge, decided what such a criterion might consist in; but as far as human identity is concerned, they might have considered the modern discovery of the uniqueness of fingerprints to be a triumphant vindication of their thesis.

The metaphysical puzzle about change and identity also demands a criterion of identity. But this is not meant to be merely a handy hallmark to aid recognition. It needs to be the essential characteristic which *constitutes* the unique person Dion, such that Dion can change in every other respect but still remain essentially Dion so long as the characteristic remains. Fingerprints do admittedly have the advantage of enduring throughout a human lifetime. Yet it would seem an unsatisfying conclusion that to be Dion is purely and simply to be the living human being with such and such a fingerprint, regardless of what other changes to his body, his character and his memories might be imagined as occurring.

But this line of criticism is unfair. *If* the Stoics had succeeded in finding the metaphysical criterion of identity that they were seeking, and it had indeed proved to be an essential and unique quality constituting an individual person throughout his life, it would have been entirely reasonable to hope that that quality would have outward manifestations detectable by the senses, so as to serve the role of epistemological criterion as well. It could, for all I know, be arguable by someone less ignorant than I am of genetics that what for many purposes constitutes the enduring essence of an individual person is his unique genetic programming, and that the individual's fingerprints are just externally accessible manifestations of that programming. The Stoics, at any rate, would have welcomed such a theory.

The story so far, then, is that the twin Academic attack of the Growing Argument and the Indistinguishability Thesis led the Stoics to require for each individual, or at least for each living individual, a single lifelong individuating quality, which would (a) preserve its identity throughout its

lifetime, and (b) make it recognisable as the individual it was. We have seen too that a thing is viewed as something 'qualified' — a bearer of qualities — at the second of the four Stoic levels of existence. At the first level, 'substrate' or 'substance', it is not qualified but just this or that lump of matter.

Now although it is the peculiar quality that establishes continuity of identity through time, what distinguishes two individuals *at* a given time is only secondarily the qualitative difference between them; what primarily differentiates them as individuals must surely be the fact that they occupy different material substrates, or 'substances'. We have already met the Stoic principle that one peculiarly qualified individual cannot occupy two substances — in other words, Dion could not simultaneously occupy two separate human bodies. They also maintained the converse principle, that two peculiarly qualified individuals cannot occupy one and the same substance³⁶ — in other words, Dion and Theon could not both occupy the same human body at the same time.

The Stoics came in for a battering from the Academics for allegedly contravening this latter principle in a cosmological theory of their own. They taught that the world periodically ends in a conflagration, during which Zeus and Providence both survive to initiate the next world phase but temporarily become completely coextensive and indistinguishable. Thus, the Academics objected, two peculiarly qualified individuals — Zeus and Providence — were being forced to occupy the same substrate, in direct contravention of the principle.³⁷

Now I doubt if the Stoics were much bothered by this accusation. They had been careful to explain that the relationship of Zeus to Providence was that of a man to his own soul; consequently Zeus and Providence, on their view, no more started out as distinct individuals than a man and his soul do. But it is worth drawing attention to one feature of this debate, the Academics' own implicit acceptance of the principle that two peculiarly qualified individuals cannot occupy one substance. We will have cause to return to this shortly.

Chrysippus' own commitment to the same principle is revealed in an openly hostile passage from Philo of Alexandria:³⁸

'Chrysippus, the most distinguished member of their school, in his work *On the Growing (Argument)*, creates a freak of the following kind. Having first established that it is impossible for two peculiarly qualified individuals to occupy the same substance jointly, he says: 'For the sake of argument, let one man be thought of as whole-limbed, the other as minus one foot. Let the whole-limbed one be called Dion, the defective one Theon. Then let one of Dion's feet be amputated.' The

question arises which one of them has perished, and his claim is that Theon is the stronger candidate. These are the words of a paradox-monger rather than of a speaker of truth. For how can it be that Theon, who has had no part chopped off, has been snatched away, while Dion, whose foot has been amputated, has not perished? 'Necessarily', says Chrysippus. 'For Dion, the one whose foot has been cut off, has collapsed into the defective substance of Theon, and two peculiarly qualified individuals cannot occupy the same substrate. Therefore it is necessary that Dion remains while Theon has perished.'

This is a notoriously difficult text to interpret, but we can at least start by isolating a few salient points. The paradox concerns two individuals, Dion and Theon, who somehow manage to be so differentiated that when Dion's foot is amputated he becomes indistinguishable from Theon. This is seen as conflicting with the principle that two peculiarly qualified individuals cannot jointly occupy the same substance, and part of Chrysippus' job seems to be to describe the result in a way which will leave the principle unscathed.

Philo unfortunately starts his direct quotation from Chrysippus at a point where the initial conditions of the paradox have already been set up, and we are therefore left to guess how Dion and Theon are related to each other at the outset. It is, I think, a universal assumption of modern discussions³⁹ that these characters are supposed to be two numerically distinct individuals who are qualitatively identical except for the fact that Theon has a foot missing: hence when Dion's foot is amputated the two are made completely indistinguishable, in contravention of the Stoics' own Uniqueness Thesis.

It is easy to see that this is wrong. Thus interpreted, the paradox would run up against the principle that *one* peculiarly qualified individual cannot simultaneously occupy *two* substances. In fact, though, Chrysippus treats it as falling foul of the converse principle, that *two* peculiarly qualified individuals cannot simultaneously occupy *one* substance.

The solution is clear once one recognises that the Stoic paradox is all but identical to a modern one, first discussed in print by David Wiggins,⁴⁰ although he had borrowed it from P. T. Geach, who himself based it on a passage of William of Sherwood. Take a cat called Tibbles; concentrate your thought on that portion of her which includes everything except her tail; and give the name Tib to that portion. Since Tibbles and Tib do not occupy all of the same space at the same time, they are non-identical. But what if we then amputate Tibbles' tail? Tibbles and Tib now occupy exactly the same space as each other. If Tibbles is still a cat, it is hard to see by what criterion one could deny that Tib is a cat. Yet they are distinct

individuals, because their histories are different. (For example, it may be true of Tibbles that she once had her tail run over, but it cannot be true of Tib: the tail was never part of her.) Hence we have two cats occupying precisely the same space at the same time. The conclusion is clearly unacceptable, and the problem is to locate the false step.

Chrysippus' puzzle is essentially the same. We start with one man, Dion, and arbitrarily give the name Theon to that portion of him which includes everything except one foot. (It is reasonably clear from Philo's subsequent criticism of Chrysippus that he understands Dion to be related to Theon in this way, as whole to part.)⁴¹ Dion corresponds, then, to Tibbles, Theon to Tib, and the differentiating foot to Tibbles' tail. We then amputate the foot, and are left with two individuals, Dion and Theon, occupying precisely the same material substance at the same time.

The differences between the Tibbles and Dion versions are twofold. First, Chrysippus' puzzle concerns the impossibility of two distinct individuals occupying the same material substance, whereas Wiggins' is about occupying the same place. Second, whereas Wiggins looks for the fallacy in the opening moves, Chrysippus for some reason chooses to assume the correctness of the analysis down to the final stage. It is only at the point when he finds himself with Dion and Theon threatening to become materially coextensive that he calls a halt, invoking the principle that two peculiarly qualified individuals *cannot* occupy the same substance. But this does not lead him to question the opening analysis. Instead he concludes that one of the two — either Dion or Theon — must step down in favour of the other. But does Dion perish while Theon survives as sole occupant of the body, or vice versa? The challenge is to find a criterion by which the painful choice can be made. Chrysippus nominates Dion, the counterpart of Tibbles, as the survivor. The text does not make his reason entirely clear. Perhaps the clue is to be found when he describes the survivor as 'Dion, the one whose foot has been cut off'. He may be reasoning that if after the amputation someone noticing the mess and bandages asks '*Whose* foot has been cut off?' the answer can only be 'Dion's'. Theon cannot have lost a foot which was never part of him in the first place. So Dion must be the amputee, and hence the survivor.

One curious feature remains. Chrysippus himself should surely never have accepted at the outset that Dion and Theon *are* two distinct peculiarly qualified individuals. After all, Theon is a part of Dion. The only peculiar quality that could distinguish Dion is his possession of the second foot which Theon lacks. But as the story unfolds, it becomes clear why having that foot cannot be Dion's peculiar quality; he will continue to exist as the

same individual even when the foot has been removed.

We must conclude from this that the paradox is not built on Stoic premisses at all. Instead, noting that Chrysippus concocted it in a work *On the Growing Argument*, we can speculate that it was his dialectical rejoinder to the Growing Argument and that in true dialectical fashion it borrowed its premisses from the Academic puzzle. After all, according to the Growing Argument every material addition to or subtraction from an individual results in his replacement by a new individual; and since in such cases the old and the new individual are related as part to whole or whole to part, the Academic argument does indeed imply that whole and part constitute distinct individuals – the very premiss which Chrysippus' own paradox presupposes. Nor is Chrysippus' purpose very far to seek. According to the Growing Argument, material growth and diminution are fatal to any idea of enduring identity. By way of counterexample, Chrysippus borrows the Growing Argument's own presuppositions to concoct an instance in which material diminution is actually a *condition* of enduring identity: the undiminished Theon perishes, while it is the diminished Dion who survives.

Chrysippus' argument does, of course, use one further premiss, that two peculiarly qualified individuals cannot occupy a single substance.⁴² It seems fairly clear from Philo's language that Chrysippus defended this as a *bona fide* principle, and not just as a dialectical ploy. Philo does not, in fact, raise any objection to it. And neither one supposes would the Academics, since it is a common-sense principle which, as we have seen, they themselves were ready to uphold on another occasion in furtherance of their attacks on the Stoics.

We are now in a position to view Chrysippus' handling of the Growing Argument as a whole. The argument presented him with a paradoxical denial of enduring individual identity. He was not one to dismiss a paradox merely because it was paradoxical, but in this instance he had little choice. Not just cosmology, but even ethics, faced imminent collapse once the notion of the enduring individual was abandoned. The first stage of his response will have been the dialectical move which we examined last, in which he so handsomely repaid the Academics in their own coin with a puzzle of his own making. The upshot of this move was to expose the contradictory consequences of the Growing Arguments's assumption that matter is the sole principle of individuation.⁴³ He thereby licensed his own quest for an alternative principle of individuation, one capable of endurance over time. By locating this in the peculiar quality, he established the distinction between substrate and qualified on which his theory of the four

levels of existence is founded, and at the same time found metaphysical support for his doctrine of infallible cognition.

The seriousness with which Chrysippus pursued this task is entirely consistent with his general attitude to paradoxes. His fascination with them went far beyond his immediate polemical needs in defending his own school against Academic attacks, and the surviving titles of his works include some twenty devoted explicitly to the discussion and solution of puzzles. It is to his everlasting credit that he recognised, and reflected in his own work, the intimate interdependence that exists between philosophical puzzlement and philosophical progress.⁴⁴

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NOTES

¹ Epicharmus fr. 170 Kaibel (D.L. 3.12); Anon. *In Plat. Theaet.* (ed. Diels and Schubart, *Berliner Klassikertexte* 2 (1905)), 71.12 ff.; Plutarch, *De sera numinis vindicta* 559B. Cf. A.W. Pickard Cambridge, *Dithyramb, Tragedy and Comedy* (ed. 2, 1962), 248-51; J. Bernays, 'Epicharmus und der Ἀὑξανόμενος λόγος', in his *Gesammelte Abhandlungen* I (Berlin, 1885), 109-17; L. Berk, *Epicharmus* (Groningen, 1964), chap. 8; J. Barnes, *The Presocratic Philosophers* (London, 1979), 106-7. The reconstruction, tentative in some details, attempts to incorporate all the motifs introduced by the sources.

² Plato acknowledged the debt at *Theaet.* 152e, but was still accused of plagiarism by his detractor Alcimus (D.L. 3.9-11). Later Platonists boosted Plato's claim to the argument with the story that Epicharmus had himself learnt it from his alleged master Pythagoras, an official forebear of Plato: Anon. *In Plat. Theaet.* 70.5 ff., 71.12 ff. (read e.g. ἐξ-μεμάθηκεν at 71.14-15). Some Pythagorean influence may genuinely be present in the number analogy.

³ Paradoxes of ever-changing identity are frequently exploited, but never, I think, systematically countered by argument before the Hellenistic age. Cf. Heraclitus 22 B 91 Diels-Kranz; Plato *Symp.* 207d, *Theaet.* 159a ff. (Note too that at *Crat.* 432a Plato appreciates the force, but also the limitations, of the type of number-analogy used by Epicharmus.)

⁴ Especially *GC* 1.5, 321a 30 ff.; cf. G.E.M. Anscombe, 'The principle of individuation', *PAS* Suppl. vol. 27 (1953), 83-96, repr. in J. Barnes, M. Schofield, R. Sorabji (eds.), *Articles on Aristotle*, vol. 3 (1979), 88-95. Aristotle's use of 'the same measure' as an example of the stability that form can impose on material flux (*GC* 321b 24-5) suggests to me that he did not have Epicharmus' puzzle in mind: there measure is the analogue of matter (see below). Cf. also Aristotle, *Pol.* 1276a 34-b 13.

⁵ For some of these, see my 'Diodorus Cronus and Hellenistic philosophy', *PCPS* n.s. 23 (1977), 74-120.

⁶ 'Growing Argument' (*auxanomenos logos*) is found at Plutarch, *De sera numinis vindicta* 559B and *Vita Thesei* 23. Elsewhere it is 'the argument about what grows' (Anon. *In Plat. Theaet.* 70.5-7), or 'the argument about growth' (Plutarch, *Comm. not.* 1083A).

⁷ See my 'Diodorus Cronus and Hellenistic philosophy' (note 5 above); J. Barnes, 'Medicine, reason and experience', in J. Barnes et al. (eds.), *Science and Speculation* (C.U.P., 1982); M. F. Burnyeat, 'Gods and Heaps', in M. Schofield and M. C. Nussbaum

(eds.), *Language and logos* (C.U.P. 1982). The clearest example of a double meaning is at Cicero, *De fato* 28-9, on the Lazy Argument.

⁸ Plutarch, *Comm. not.* 1083 B-C.

⁹ This is the Stoic view on the relationship of whole and part: S. E., *M* 9.336, 11.24; Arius Didymus, loc. cit., note 24 below; Seneca, *Ep.* 113.4-5. Cf. Plato, *Parm.* 146b.

¹⁰ J. Locke, *An Essay concerning Human Understanding*, 2.27.3.

¹¹ D. Hume, *Treatise of Human Nature*, 1.4.6. Cf. R. Hall, 'Hume's use of Locke on identity', *Locke Newsletter* 5 (1974), 56-75.

¹² The strong conclusion that growth is an indefensible notion is found in Plutarch, *Comm. not.* (1084A), which should be taken to represent the Academy in its Carneadean phase, mid or late second century B.C. At Anon. *In Plat. Theaet.* 70.8-22 the Academics are given the weaker position that the existence of growth is self-evident and that if the Stoics are silly enough to try to prove what is self-evident it can more easily be disproved. That sounds like the Academy's later mitigated scepticism under Philo of Larissa (especially the acknowledgement of the 'self-evident' – cf. my 'The motivation of Greek skepticism', in M. F. Burnyeat (ed.), *The Skeptical Tradition* (University of California Press, forthcoming)).

¹³ 22 B 91 Diels-Kranz.

¹⁴ Plutarch, *Vita Thesei* 23.

¹⁵ For example, Carneades' 'sorites' arguments against Stoic theology (S.E., *M* 9.182 ff.; Cicero, *ND* 3.43 ff.) have nothing in common with the original 'Heap' argument beyond the little-by-little feature of their argumentative structure.

¹⁶ For the Stoics, an artefact like a ship does not have a quality, a single unifying *hexis* (*SVF* 2. 366-8, 1013). Such is the Stoic concentration not just on living but on human examples that the texts usually designate 'qualified' entities by the masculine form *poioi* (translated 'qualified individuals' in this paper).

¹⁷ Chrysippus is the first Stoic reported to have tackled the question: he devoted a whole work to the Growing Argument (Philo, cited below). Plutarch's discussion in *Comm. not.* 1083A-1084A cites (a) the initial Academic formulation of the Growing Argument; (b) the response of the Stoics, of whom only Chrysippus is named; and (c) the Academic retort to that. Since Plutarch's dialogue seems to derive from the Academy of Carneades and Clitomachus, and has Chrysippus as a main target throughout, it seems natural to link (a) with Arcesilaus and his immediate successors, (b) with Chrysippus, and (c) with Carneades. (Plutarch's discussion is the key item of evidence: H. Cherniss's commentary in the Loeb edition of the *Moralia*, vol. XIII, 2 (1976), is indispensable.)

¹⁸ Plutarch, *Comm. not.* 1083A.

¹⁹ Locke, loc. cit. (note 10 above).

²⁰ The four headings are reported only by Plotinus (*SVF* 2.371) and Simplicius (ib. 369); but Plutarch makes it plain that he is referring to the same theory in reporting the Stoic response to the Growing Argument when he singles out what are plainly the first two of the four levels of existence (op. cit. 1083C-D) and adds 'I am simplifying their account, since it is four substrates that they attribute to each of us; or rather, they make each of us four' (ib. 1083E).

²¹ Especially P. H. De Lacy, 'The Stoic categories as methodological principles', *TAPA* 76 (1945), 246-63; J. M. Rist, 'Categories and their uses', in his *Stoic philosophy* (1969), repr. in A. A. Long (ed.), *Problems in Stoicism* (London, 1971), 38-57; A. C. Lloyd, 'Grammar and metaphysics in the Stoa', in Long, op. cit., 58-74; A. Graeser, 'The Stoic

categories', in J. Brunschwig (ed.), *Les stoiciens et leur logique* (Paris, 1978), 199-221. That Chrysippus used the theory cannot be doubted: Galen (*Plac.* 7.1.12-15) cites a discussion in which he referred to the first, second and fourth of the levels. My claim that it originated with him may be more controversial. But (1) there is no evidence for the metaphysical substrate-qualified distinction in earlier Stoics, even if it is in a way prefigured in the matter-god dualism of early Stoic cosmology. And (2) when Chrysippus criticised Ariston for locating the virtues at the level of the 'relatively disposed' that does not mean that Ariston himself had used this technical concept. To judge from Plutarch, *De virt. mor.* 440E ff., Ariston had just used the common categorial term 'relative', and had illustrated the relativity of the virtues by an example – that of calling vision 'white-seeing', 'black-seeing', etc. according to its objects – which lacks the crucial feature of the 'relatively disposed'. This term covers properties which can be gained and lost without any internal change to their possessor (see below, and *SVF* 2.403), whereas when the object of vision changes colour one expects a matching change in the vision itself. Besides, the dispute between Ariston and Chrysippus was on how to interpret Zeno's analysis of the virtues (see A. M. Ioppolo, *Aristone di Chio* (1980)): if Zeno had already himself been using the fourfold scheme he would hardly have left the matter in doubt.

²² Cf. Porphyry ap. Simpl. *In Ar. Cat.* 48, 11-16. This distinction between primary and secondary substrates may be what licenses Plutarch's talk of each of the first two levels as a 'substrate' (*Comm. not.* 1083C-D). Note that he starts to speak of the third and fourth levels as substrates too (ib. 1083E) but then corrects himself.

²³ Ib. 1083C-D; Arius Didymus, cited note 26 below.

²⁴ Arius Didymus (Stobaeus, *Ecl.* 1.178, 17 - 179, 17 = Diels, *Doxographi Graeci*, 462, 25-463, 13), reporting Posidonius and Mnesarchus (cf. note 43 below). Warning: the acceptance by all editors, subsequent to Bake's 1810 edition of Posidonius, of the correction τῆς οὐσίας for τῆν οὐσίαν at 179,3 (= Diels 463,3) is unnecessary and misleading, since the substance is a part of the qualified individual, not vice versa. For a distinction between the 'is' of identity and the 'is' of constitution, cf. D. Wiggins, *Identity and spatio-temporal continuity* (Oxford 1967).

²⁵ Cf. D.L. 7.58; *SVF* 2.390.

²⁶ Arius Didymus (Stobaeus, *Ecl.* 1.177, 21-178, 21 = Diels, op. cit. 462, 13-463, 1 = Posidonius fr. 96 Edelstein-Kidd); *SVF* 2.395; Simplicius, *In Ar. Cat.* 140, 24-30; P. Oxy. 3008 (ed. P. Parsons, *The Oxyrhynchus Papyri* XLII (Oxford, 1974), 30-1). At Plutarch, *Comm. not.* 1083C-D, the term for that which endures through change has fallen out of the text. It is usually restored as ποιότης or ποιόν, but that ὁῖος ποιόν (or -ός) here too was the term used seems probable if one compares P. Oxy. 3008, an unrecognised doublet of the Plutarch argument.

²⁷ Porphyry, *In Ar. Cat.* 129, 8-10; Dexippus, *In Ar. Cat.* 30, 20-6. These important items of evidence were unearthed and passed on to me by Tony Long, to whom I am extremely grateful. At present I am unsure how much weight to put upon them. Dexippus' illustrations of 'combination of qualities' are as they stand poorly presented and inadequate for the job in hand. If it is simply a list of qualities like 'snub-nosed', 'bald', 'grey-eyed', etc., as Dexippus suggests, we are unlikely to get a description any element of which holds of the individual from birth to death, or which distinguishes him uniquely. More likely the point is that the uniquely distinguishing feature(s) can be analysed in terms of common qualities, e.g. the colour, position and precise geometrical shape of a birthmark.

(Cf. also Simplicius, *In Ar. Cat.* 55, 3-5, 229, 16-18; and, for a rather uninformative definition of 'peculiarly qualified', Philoponus, *In Ar. Anal. pr.* 167, 17 ff.)

²⁸ Especially H. P. Grice, 'Personal Identity', *Mind* 50 (1941), repr. in J. Perry (ed.), *Personal Identity* (1975).

²⁹ *SVF* 2.403, where, somewhat surprisingly, 'Son of x' is included.

³⁰ See the stories of Persaeus (D.L. 7, 162-3) and Sphaerus (ib. 177).

³¹ Cf. especially Cicero, *Ac.* 2. 19-26.

³² Ib. 2.56-8.

³³ Ib. 2.85-6; Plutarch, *Comm. not.* 1077C. Both can be taken to represent the Carneadean Academy. The powerful further Academic challenge (Cicero, *Ac.* 2.85) that even two qualitatively different items might prove indistinguishable in practice plays no part in the present story.

³⁴ For the likely scope of the Stoic sage's omniscience, cf. G. B. Kerferd, 'What does the wise man know?', in J. M. Rist (ed.), *The Stoics* (1978), 125-36.

³⁵ Plutarch, *Comm. not.* 1077C.

³⁶ See Philo's evidence, below. Plutarch, *Comm. not.* 1077C-D has caused a good deal of confusion on this point, but, as Cherniss shows in his commentary (note 17 above), ad loc., his charge must be not that the Stoics *claim* that two peculiarly qualified individuals can occupy one substance, but that this is an embarrassing implication of their conflagration theory.

³⁷ Plutarch, *Comm. not.* 1077D-E. The attack in Philo, *Aet. Mundi* 47-51 (see below) seems to belong to the same stable.

³⁸ Philo, *Aet. mundi* 48 = *SVF* 2.397.

³⁹ Especially M.E. Reesor, 'The Stoic concept of quality', *AJP* 75 (1954), 40-58; J. M. Rist, op cit. (note 21 above); J. B. Gould, *The Philosophy of Chrysippus* (1970), 104-6.

⁴⁰ D. Wiggins, 'On being in the same place at the same time', *Philosophical Review* 77 (1968), 90-5. Cf. H. Noonan, 'Wiggins on identity', *Mind* 85 (1976), 559-75, esp. 570 ff.

⁴¹ Philo tries to apply the steps of the Dion and Theon argument to the Stoic cosmological doctrine mentioned above, in order to show that if Theon perishes then by the same token Providence must perish in the conflagration: 'Let the world be the counterpart of Dion, since it is complete, and the world's soul the counterpart of Theon, since the part is less than the whole; and as Dion's foot was removed, so let all the bodily part of the world be removed from it . . . ' (Philo, op.cit. 49-51). Further clues are that Chrysippus *τεραπεύεται* (a *τέρας* is a freak or monster), and that the distinction between Dion and Theon is one to be 'thought of' (*ἐμνοεῖσθαι*).

⁴² I take it that at this stage 'peculiarly qualified' did not yet carry the full theoretical weight of the levels-of-existence theory. Evidently Chrysippus was already using the expression, but that may have been for the purposes of the epistemological debate only.

⁴³ A less sophisticated but equally compelling demonstration of the same point was that of the Stoic Mnesarchus, c. 100 B.C. (Arius Didymus, loc. cit. n. 24 above). To point to the extreme impermanence of a man's matter would have begged the question posed by the Growing Argument, whose conclusion is precisely that the man is equally impermanent. So Mnesarchus instead pointed out that in one way the matter is more enduring, since all the matter constitutive of Socrates pre-existed him and outlasted him. That was enough to establish the non-identity of man and matter.

⁴⁴ Full edition of the texts on which this paper is based, together with translation and commentary, will be found in A.A. Long and D.N. Sedley, *The Hellenistic Philosophers*

(Cambridge University Press, forthcoming). There will also be a broader discussion of Stoic metaphysics, including the problematic third level, 'disposed'.

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